

AMENDMENTS TO THE CLAIMS

Amendments to the claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

1. (Currently Amended) An implant for implantation on a patient's femur ~~femoral condyle~~, the implant comprising:

(a) a condylar portion having (i) a condylar ~~a~~ bone-facing implant surface ~~and joint facing~~ implant surface; wherein the bone facing implant surface is configured to oppose at least a portion of ~~the~~ ~~a~~ femoral condyle and (ii) a condylar articular implant surface configured to articulate with at least a portion of a tibial surface; the trochlea, and

(b) a trochlear portion having (i) a bone-facing implant surface configured to oppose at least a portion of a trochlea and (ii) an articular ~~the joint facing~~ implant surface is configured to ~~provide an articular surface~~ articulate with at least a portion of a patellar surface, when the implant is implanted on the patient's femur; ~~femoral condyle; and further~~

~~wherein at least a portion of the condylar bone-facing implant surface comprises a planar surface to abut a bone cut surface of the patient's condyle and wherein at least a portion of the condylar articular implant surface comprises a curvature that substantially replicates a curvature has a three dimensional shape that is configured to substantially match the shape of at least a portion of an uncut articular surface of the patient's femoral condyle and to abut the portion when the implant is implanted on the femoral condyle planar surface abuts the bone cut surface.~~

2. (Cancelled)

3. (Original) The implant of claim 1 wherein the implant has a thickness of a cartilage defect in a patient.
4. (Original) The implant of claim 1 wherein the implant has a thickness of 85% of a cartilage defect in a patient.
5. (Original) The implant of claim 1 wherein the implant has a thickness of between 65%-100% of a cartilage defect of a patient.
6. (Original) The implant of claim 1 wherein the implant has a thickness of a cartilage defect plus a predefined offset value.
7. (Original) The implant of claim 6, wherein said offset value can be selected to adjust for axis malalignment.
8. (Original) The implant of claim 1 wherein the implant is constructed of a material comprising metal or metal alloy.
9. (Original) The implant of claim 1 wherein the material comprises one or more biologically active materials.
10. (Original) The implant of claim 6 wherein the implant is coated with a biologically active material.
11. (Original) The implant of claim 1 wherein the implant is comprised of a metal or metal alloy and a polymer.

12. (Currently Amended) The implant of claim 1 further having a structure for attachment on at least one of the bone-facing surface and the ~~joint facing~~ articular surface selected from the group consisting of: ridges, pegs, pins, cross-members, teeth and protrusions.

13. (Original) The implant of claim 12 further having a plurality of structures for attachment.

14. (Original) The implant of claim 13 wherein the relative orientation of the structures for attachment are selected from the group consisting of: symmetrical, asymmetrical, rows, circles, triangles, and random.

15. (Currently Amended) The implant of claim 1 wherein a second component of the implant ~~covers a portion of a~~ provides the patellar surface.

16. (Currently Amended) The implant of claim 1 wherein each of the bone-facing implant surface and ~~joint facing surfaces have~~ the articular implant surface has a slope relative to a longitudinal axis through at least a portion of the implant and further wherein the slope of the bone-facing implant surface relative to the slope of the ~~joint-facing~~ articular implant surface is selected from the group consisting of: positive, negative, and null.

17. (Currently Amended) The implant of claim 1 wherein the ~~external~~ articular implant surface of the trochlear portion of the implant comprises at least a portion that implant

approximates the shape of one of the ~~condylar, patient's uncut~~ trochlear, ~~tibial~~ or patellar articular surfaces.

18. (Cancelled)

19. (Original) The implant of claim 1 wherein the implant is selected from a library of implants.

20. (Original) The implant of claim 1 wherein the implant is surgically implanted via an incision of 10 cm or less.

21. (Original) The implant of claim 1 wherein the implant is surgically implanted via an incision of 6 cm or less.

22. (Original) The implant of claim 1 wherein the range of motion of the joint is restored to between 80-99.9% of normal joint motion.

23. (Original) The implant of claim 1 wherein the range of motion of the joint is restored to between 90-99.9% of normal joint motion.

24. (Original) The implant of claim 1 wherein the range of motion of the joint is restored to between 95-99.9% of normal joint motion.

25. (Original) The implant of claim 1 wherein the range of motion of the joint is restored to between 98-99.9% of normal joint motion.

26. (Original) The implant of claim 1 wherein the implant is formed to oppose at least a portion of a second condyle on the femur.

27. (Currently Amended) A kit for repairing a knee, the kit comprising:

a. (a) a femoral ~~condyle~~ implant comprising:

(i) a condylar portion having a condylar a bone-facing femoral implant surface ~~and a joint facing femoral implant surface; wherein the bone facing femoral implant surface~~ is configured to oppose at least a portion of ~~the~~ a femoral condyle, and ~~the trochlea~~ having a condylar articular implant surface configured to articulate with at least a portion of a tibial surface, and

(ii) a trochlear portion having a bone-facing implant surface configured to oppose at least a portion of a trochlea and the joint facing an articular implant surface is configured to provide an articular surface articulate with at least a portion of a patellar surface, when the implant is implanted on the patient's femur; femoral condyle; and further

wherein at least a portion of the condylar bone-facing implant surface has comprises a planar surface to abut a bone cut surface of the patient's condyle and wherein at least a portion of the condylar articular implant surface comprises a curvature a three dimensional shape that is configured to substantially match that substantially replicates the shape of at least a portion of an uncut articular surface and to lie adjacent to the portion when the implant is implanted on the femoral condyle planar surface abuts the bone cut surface; and

b.(b) a patellar implant comprising:

(i) a first surface configured to engage the joint facing implant surface articular implant surface of the trochlear portion of the femoral implant, and

(ii) a second surface configured to engage the patient's patella.

28. (Currently Amended) An implant for implantation on a patient's femur femoral condyle, the implant comprising:

(a) one or more condylar portions each having (i) a condylar bone-facing implant surface ; and a joint facing implant surface, wherein the bone facing implant surface is configured to oppose at least a portion of at least one or more a femoral condyle[[s]] and (ii) a condylar articular implant surface configured to articulate with at least a portion of a weight-bearing tibial surface, the trochlea when the implant is implanted on the patient's femur; and a femoral condyle, and wherein the

(b) a trochlear portion having (i) a bone-facing implant surface configured to oppose at least a portion of a trochlea and (ii) an articular joint facing implant surface is configured to oppose articulate with at least a portion of a weight bearing tibial surface and a patella an opposing articular surface, when the implant is implanted on a the patient's femur femoral condyle, and further;

wherein at least a portion of the condylar bone-facing implant surface has comprises a planar surface to abut a bone cut surface of the patient's condyle and wherein at least a portion of the condylar articular implant surface comprises a curvature a three dimensional shape configured to substantially match the shape of that substantially approximates at least a portion of an uncut articular surface that the implant abuts when the implant is implanted on the of the patient's femoral condyle, when the planar surface abuts the bone cut surface.

29. (Currently Amended) The implant of claim 28, wherein at least a portion of the joint facing surface of the implant at least one condylar articular implant surface has a three-dimensional shape that substantially matches the surface of an opposing tibial implant component.

30. (Cancelled)

31. (Cancelled)

32. (Currently Amended) The implant of claim 31 28, wherein the implant has a thickness of a cartilage defect plus a predefined offset value.

33. (Previously Presented) The implant of claim 32, wherein said offset value can be selected to adjust for axis malalignment.

34. (Currently Amended) The implant of claim 31 28, wherein the implant is constructed of a material comprising metal or metal alloy.

35. (Currently Amended) The implant of claim 31 28, further having a structure for attachment on at least one of the bone-facing surface and the joint-facing surface selected from the group consisting of: ridges, pegs, pins, cross-members, teeth and protrusions.

36. (Currently Amended) The implant of claim 31 28, wherein the implant has a thickness similar to normal cartilage.

37. (Currently Amended) The implant of claim 31 28, wherein the implant has a thickness that is constant across the implant.

38. (Currently Amended) The implant of claim 34 28, wherein the implant has a thickness that varies across the implant.

39. (Cancelled)

40. (Currently Amended) The implant of claim 1, wherein at least a portion of ~~both the condylar bone-facing implant surface comprises and the joint facing implant surface~~ has a three-dimensional shape that substantially matches the shape of at least a portion of an uncut articular surface of the patient's femoral condyle, when the planar surface abuts the bone cut surface that the bone facing surface of the implant abuts.

41. (Cancelled)

42. (Currently Amended) The implant of claim 1, wherein the at least a portion of the joint facing condylar articular implant surface has that comprises a three-dimensional shape that substantially mimicks replicates the shape of at least a portion of an uncut articular surface of the patient's femoral condyle substantially replicates the patient's a normal articular cartilage surface, when the planar surface abuts the bone cut surface.

43. (Currently Amended) The implant of claim 1, wherein the distance between a portion of the condylar bone-facing implant surface the bone facing and the joint facing a portion of the condylar articular implant surface is constant.

44. (Currently Amended) The implant of claim 43, wherein said distance between the bone facing and the joint facing implant surface is similar to the thickness of articular cartilage.

45. (Currently Amended) The implant of claim 1, wherein the distance between a portion of the condylar bone-facing implant surface ~~the bone facing and the joint facing a portion of the condylar articular~~ implant surface is variable.

46. (Currently Amended) The implant of claim 45, wherein the distance ~~between the bone facing and the joint facing implant surface~~ is similar to the thickness of articular cartilage.

47. (Cancelled)

48. (Cancelled)

49. (New) The implant of claim 1, wherein a second component of the implant provides the tibial surface.

50. (New) The implant of claim 1, wherein the at least a portion of the condylar articular implant surface that comprises a curvature that substantially replicates the curvature of at least a portion of an uncut surface of the patient's femoral condyle that substantially replicates the curvature of the patient's condyle in approximately the sagittal plane.

51. (New) The implant of claim 1, wherein the implant has only one condylar portion.

52. (New) The implant of claim 1, wherein the condylar portion is a first condylar portion and further comprising a second condylar portions, wherein the first and second condylar portions are disposed on opposite sides of the trochlear portion.

53. (New) The implant of claim 28, wherein the implant comprises only one condylar portion.

54. (New) The implant of claim 28, wherein the condylar portion is a first condylar portion and further comprising a second condylar portions, wherein the first and second condylar portions are disposed on opposite sides of the trochlear portion.

55. (New) The implant of claim 54, wherein the first condylar portion has (i) a condylar bone-facing implant surface configured to oppose at least a portion of a femoral condyle and (ii) a condylar articular implant surface configured to articulate with at least a portion of a weight-bearing tibial surface, when the implant is implanted on the patient's femur.

56. (New) The implant of claim 54, wherein each of the first and second condylar portions has (i) a condylar bone-facing implant surface configured to oppose at least a portion of a femoral condyle and (ii) a condylar articular implant surface configured to articulate with at least a portion of a weight-bearing tibial surface, when the implant is implanted on the patient's femur.